ASME 2021 HONORS & AWARDS

POL D. SPANOS

ASME MEDAL

The ASME Medal is awarded for eminently distinguished engineering achievement. Established in 1920, it is the highest award bestowed by the Society.

Pol D. Spanos, P.E., Ph.D., the Lewis B. Ryon endowed chair in engineering at Rice University in Houston, is honored for outstanding research on the dynamics and reliability of nonlinear mechanical and structural systems; for tireless service to ASME and the engineering community; for impactful contributions through highly cited books and articles; and for devoted mentorship and internationally recognized scientific and technological leadership.

Dr. Spanos' interests are in the area of dynamics and vibrations with emphasis on probabilistic, nonlinear and signal-processing aspects; and with diverse applications. He has supervised the theses of more than 80 master's and more than 55 Ph.D. students.

Dr. Spanos has published more than 350 technical papers. He is editor-in-chief of the *Probabilistic Engineering Mechanics* journal and the *International Journal of Non-Linear Mechanics*.

An ASME Fellow, Dr. Spanos has served in various capacities including chair of the Applied Mechanics Division. His Society honors include Honorary Membership in 2014 and the AMD's Thomas K. Caughey Dynamics Award in 2020. Earlier, he received three achievements awards from ASME and Pi Tau Sigma.

Dr. Spanos is a member of many academies including the National Academy of Engineering and the American Academy of Arts & Sciences; and academies in several other countries. He is chair of the board of the International Association for Structural Safety and Reliability and president of the American Society of Civil Engineers' Engineering Mechanics Institute.

Dr. Spanos received his diploma in mechanical engineering and engineering science from the National Technical University in Athens, Greece, in 1973. He earned his master's degree in civil engineering and his Ph.D. in applied mechanics from the California Institute of Technology in Pasadena in 1974 and 1976, respectively. Dr. Spanos is a registered professional engineer in Texas, and in Greece (mechanical/civil).

ALBA L. COLON-RODRIGUEZ

KATE GLEASON AWARD

The Kate Gleason Award, established in 2011, recognizes outstanding achievements by a female engineer. It honors the legacy of the first woman to be welcomed into ASME as a member.

Alba L. Colon-Rodriguez, director of competition systems at Hendrick Motorsports in Concord, N.C., is honored for trailblazing contributions to motorsports through the innovative use of data acquisition tools, simulations and modeling to enable teams to win races and championships.

With Hendrick Motorsports since January 2018, Ms. Colon-Rodriguez leads a team of engineers that provide all the tools needed for drivers in the fleet of Chevrolet Camaro ZL1 1LEs to go as fast as possible on race day. During her tenure, the company has amassed 24 points-paying race wins and two NASCAR All-Star Race victories; and Hendrick Motorsports driver Chase Elliott won the NASCAR Cup Series championship in 2020.

Previously Ms. Colon-Rodriguez was with General Motors (1994-2017). Initially a data acquisition engineer for the Oval Track Group, she was named National Hot Rod Association Pro Stock Truck program manager in 1998. In 2000 Ms. Colon-Rodriguez was placed in charge of all of the company's NHRA drag racing programs. The following year she was selected to head up GM's NASCAR Cup Series effort and, under her charge, Chevrolet earned 286 race wins, 12 driver's championships and 14 Manufacturers' Cup awards through the 2017 season.

Ms. Colon-Rodriguez is a member of SAE International. Her extensive list of honors includes the Hispanic Heritage Foundation's STEM Award in 2017 for her contributions in science, technology, engineering and mathematics; and a *Sports Business Journal* Game Changer Award in 2018. She has been featured in numerous media pieces.

Ms. Colon-Rodriguez earned her bachelor's degree in mechanical engineering from the University of Puerto Rico in Mayaguez in 1993. She was honored with a Distinguished Alumni Award from the university in 2008.

SHUJI NAKAMURA

RICHARD J. GOLDSTEIN ENERGY LECTURE AWARD

The Richard J. Goldstein Energy Lecture Award, established in 2019, recognizes a pioneering contribution to the frontiers of energy that has led to a breakthrough in existing technology, a new application or new area of engineering endeavor, or a policy initiative.

Shuji Nakamura, Ph.D., a professor in the materials department and the electrical and computer engineering department at the University of California, Santa Barbara, is honored for transformational innovation in energy-conserving electronic and photonic materials, particularly pioneering work in light emitters based on wide-bandgap semiconductors and the invention of efficient blue light-emitting diodes that have rendered substantive bright and energy-saving white light sources.

With UC Santa Barbara since 2000, Dr. Nakamura is also co-director of the Solid State Lighting and Energy Electronics Center and the Cree professor in solid state lighting and displays.

His research includes metalorganic chemical vapor deposition, hydride vapor phase epitaxy, and growth and device fabrication of light emitters based on the wide-bandgap semiconductor indium gallium nitride (InGaN). In 2013 Dr. Nakamura co-founded Soraa Laser Diodes, Inc., which commercializes revolutionary semi-polar GaN laser light in Silicon Valley and Santa Barbara. He holds more than 200 U.S. patents and over 300 Japanese patents, and has published over 650 papers.

Dr. Nakamura's extensive list of honors includes the 2006 Millennium Technology Prize from Technology Academy Finland, the 2014 Nobel Prize in Physics from the Royal Swedish Academy of Sciences, a 2015 Global Energy Prize from the Global Energy Association and the 2021 Queen Elizabeth Prize for Engineering. Among his many memberships, he is a Fellow of the National Academy of Engineering, the National Academy of Inventors and the Royal Academy of Engineering.

Dr. Nakamura earned his bachelor's degree, master's degree and Ph.D. in electrical engineering from Tokushima University in Japan in 1977, 1979 and 1994, respectively. He holds numerous honorary degrees.

YONGGANG HUANG

HONORARY MEMBERSHIP

Yonggang Huang, Ph.D., the Jan and Marcia Achenbach professor of mechanical engineering at Northwestern University in Evanston, Ill., is honored for pioneering the field of flexible inorganic electronics and its successful application to human healthcare; for distinguished service to ASME through various leadership roles; and for outstanding contributions to other societies and organizations.

Dr. Huang joined the faculty at Northwestern in 2007 and has been in his current position since 2020. Previously he was with the University of Illinois at Urbana–Champaign (1998-2007), Michigan Technological University in Houghton (1995-98) and the University of Arizona in Tucson (1991-95).

His research focuses on mechanics of materials and structures, including stretchable and flexible inorganic electronics. Among his research awards, Dr. Huang received the 2017 William Prager Medal from the Society of Engineering Science, and the 2018 Zdeněk P. Bažant Medal for Failure and Damage Prevention and 2019 Theodore von Karman Medal from the American Society of Civil Engineers.

An ASME member, Dr. Huang served as chair of the Applied Mechanics Division (2019-20) and has been editor-in-chief of the *Journal of Applied Mechanics* since 2012. Under his leadership the average review time for papers submitted to the journal has been reduced to ~16 days. Dr. Huang's Society honors include the 2010 Charles Russ Richards Memorial Award, the 2013 Daniel C. Drucker Medal, the 2016 Nadai Medal and the 2019 Robert Henry Thurston Lecture Award.

Dr. Huang is also a member of the National Academy of Engineering and the National Academy of Sciences, a Fellow of the American Academy of Arts & Sciences, and a member of the Society of Engineering Science.

Dr. Huang received his bachelor's degree in mechanics from Peking University in Beijing in 1984. He earned his master's degree and Ph.D. in engineering science from Harvard University in Cambridge, Mass., in 1987 and 1990, respectively.

MARSHALL G. JONES

HONORARY MEMBERSHIP

MARSHALL G. JONES, P.E., PH.D., A principal engineer at General Electric Global Research in Niskayuna, N.Y., is honored for pioneering the use of high power lasers for industrial materials processing; and for contributions to STEM education including lifelong mentoring of young people, particularly underrepresented minorities.

With GE since 1974, Dr. Jones' accomplishments include novel methods to weld dissimilar metals; a fiber-optic laser-beam delivery system to cut steel, titanium and nickel-based alloys, and to weld and drill them at multiple angles; and a laser-welding system using fiber-optic cables to simultaneously split a laser beam and heat opposite sides of a workpiece. Dr. Jones also revolutionized the method for making lead wires that are used in automotive headlamps. He holds over 65 U.S. patents and nearly 60 foreign patents, and has more than 50 publications.

Dr. Jones served as an adjunct professor at the University at Albany and Schenectady County Community College, both part of the State University of New York system. He has been active in promoting science, technology, engineering and math programs in the New York Capital District area; and he mentors youth across the country and internationally as well.

An ASME Fellow, Dr. Jones has served in numerous capacities including on the Board on Minorities and Women, and as chair of the Society's Hudson-Mohawk Section.

Among his extensive lists of honors, Dr. Jones is a member of the National Academy of Engineering and a Fellow of the Laser Institute of America; and he was inducted into the National Inventors Hall of Fame in 2017.

Dr. Jones earned his bachelor's degree in mechanical engineering from the University of Michigan in Ann Arbor in 1965; and his master's and Ph.D. in mechanical engineering from the University of Massachusetts Amherst in 1972 and 1974, respectively. He is a registered professional engineer in New York.

JOHN B. KITTO JR.

HONORARY MEMBERSHIP

JOHN B. KITTO JR., P.E., A RENEWABLE energy consultant, is honored for major contributions to the thermal power industry and heat transfer community through papers and reference books, and research on renewable energy and emissions control equipment; and through leadership roles in ASME that have advanced the Society's technical, membership and governance goals.

After 37 years in the energy business, Mr. Kitto retired from The Babcock & Wilcox Company in 2012. He last served as business development manager in the Barberton, Ohio, office, where he focused on power, emissions control and renewable energy. From 1975 to 1999 he held positions in the company's R&D Division in Alliance, Ohio.

Mr. Kitto led the development and conceptual design of the Palm Beach Renewable Energy Facility in Florida, which was the first new waste-to-energy plant in the U.S. in 20 years, and the cleanest and most energy efficient plant of its kind in the world at the time of its commissioning in 2015. For 25 years, he was co-editor, technical editor and chapter author of "Steam: Its Generation and Use," a power industry reference book published by B&W.

A Fellow and past officer of ASME, Mr. Kitto most recently served on the Board of Governors' Committee on Finance and Investment (2014-20). His Society awards include the 1991 George Westinghouse Silver Medal, and he received a 75th Anniversary Medal from the Heat Transfer Division in 2013.

Mr. Kitto is also a Fellow of the Canadian Society for Mechanical Engineering; and a member of the Cleveland Engineering Society and Sigma Xi, The Scientific Research Honor Society.

Mr. Kitto earned his bachelor's degree in mechanical engineering from Lehigh University in Bethlehem, Pa., in 1975; and his master's degree in business administration from the University of Akron in Ohio in 1980. He is a registered professional engineer in Ohio.

HAMEED METGHALCHI

HONORARY MEMBERSHIP

HAMEED METGHALCHI, SC.D., A PROFESSOR of mechanical engineering at Northeastern University in Boston, is honored for distinguished services in promoting mechanical engineering through teaching, administrative and mentoring efforts; for contributions to the international community through research publications; and for sustained leadership in the Advanced Energy Systems Division of ASME's Energy Resources Board.

On the faculty at Northeastern since 1979, Dr. Metghalchi was chair of the mechanical and industrial engineering department from 2004 to 2011. He also served as senior associate dean and interim dean of the College of Engineering, and developed a Master of Science in Energy Systems program.

Dr. Metghalchi's research is in the general area of thermofluids dealing with scientific issues in power, energy, combustion, fluid mechanics, thermodynamics and chemical reactions. His research has been funded by the National Science Foundation, the Army Research Office, the Office of Naval Research and the U.S. Department of Energy; and private companies such as Ford Motor Company, Caterpillar Inc., Stone & Webster Inc., Integrated Genetics and Sanofi Genzyme. He has supervised 22 Ph.D. dissertations and 39 master's theses at Northeastern; and has published extensively in education and research areas.

An ASME Fellow, Dr. Metghalchi has been active in the AESD and the Internal Combustion Engine Division. He has served as editor-in-chief of the *Journal of Energy Resources Technology* since 2012. His Society honors include the 2011 James Harry Potter Gold Medal, the 2014 Edward F. Obert Award and the 2019 George Westinghouse Gold Medal.

He is also an Honorary Fellow of the International Society of Energy, Environment and Sustainability and a member of The Combustion Institute.

Dr. Metghalchi earned three degrees in mechanical engineering: his bachelor's degree from The University of Oklahoma in Norman in 1975; and his master's degree and Sc.D. from the Massachusetts Institute of Technology in Cambridge in 1977 and 1980, respectively.

PAMELA M. NORRIS

HONORARY MEMBERSHIP

PAMELA M. NORRIS, PH.D., EXECUTIVE dean in the School of Engineering and Applied Science, and the Frederick Tracy Morse professor of mechanical and aerospace engineering at the University of Virginia in Charlottesville, is honored for international leadership in nano, micro and macroscale thermal science and engineering research; for tireless efforts to advance diversity in STEM fields; and for demonstrating engineering excellence as an outstanding mentor for students and faculty.

Dr. Norris joined the faculty at UVA in 1994, and founded the Nanoscale Energy Transfer Laboratory and Aerogel Research Laboratory. She holds patents for applications of aerogels in areas ranging from biological warfare detection to lab-on-a-chip, to thermal insulation; and for innovative thermal management techniques for jet-blast deflectors.

Dr. Norris is editor-in-chief of *Nanoscale and Microscale Thermophysical Engineering*.

In 2018 Dr. Norris received the prestigious Raven Award from the Raven Society, the oldest honorary society at UVA. Among her other honors is the 2016 Distinguished Engineering Educator Award from the Society of Women Engineers.

An ASME Fellow, Dr. Norris served as chair of the Society's National Nanotechnology Institute Committee on Nanotechnology Education (2003-10) and chaired Nano Training Bootcamps both in the U.S. and abroad. She has chaired the Heat Transfer Division's Long Range Directions and Issues Committee and the Committee on Heat Transfer Education; and has edited the *Journal of Heat Transfer–Recent Contents* and the *Journal of Heat Transfer*.

Dr. Norris is a member of the American Association for the Advancement of Science, the American Society for Engineering Education, the Materials Research Society, the American Society of Thermal and Fluids Engineers, the International Centre for Heat and Mass Transfer, and Women Leaders in Higher Education.

Dr. Norris received her bachelor's degree in mechanical engineering and mechanics from Old Dominion University in Norfolk, Va., in 1987. She earned her Ph.D. in mechanical engineering from the Georgia Institute of Technology in Atlanta in 1992.

THE ASME BIOENGINEERING DIVISION'S WOMEN'S NETWORKING GROUP

JOHNSON & JOHNSON CONSUMER COMPANIES, INC. MEDAL

THE JOHNSON & JOHNSON CONSUMER Companies, Inc. Medal recognizes outstanding contributions by an individual, company, government entity, school or other organization toward developing and implementing practices, processes and programs that value and strategically manage diversity and inclusiveness. The award was established by the Board on Diversity and Outreach in 2004 through the generous contributions of individual ASME members and Johnson & Johnson Consumer Companies, Inc.

The ASME Bioengineering Division's Women's Networking Group is recognized for the development and implementation of a program to strategically improve gender diversity and inclusiveness within the division.

The division has supported the annual Summer Bioengineering Conference since 1993. Known as the Summer Biomechanics, Bioengineering and Biotransport Conference (SB^{3}C) since 2015, the conference provides a forum for bioengineering researchers and educators to present and discuss current trends; as well as a rich networking platform through features including workshops, poster sessions, a sponsor/exhibitor area, a career fair and paper competitions.

Recognizing the need for women to meet together as a group, former 2005 BED Summer Bioengineering Conference chair Jennifer Wayne and local arrangements chair Rita Patterson decided to host the first informal women's networking event in 2007 with 17 women in attendance. The goals were to enhance connections with one another; to increase the number of women receiving award nominations and earning the distinction of ASME Fellow; and to provide general mentoring. That initial gathering launched what became known as the Women's Networking Group.

Over the past 15 years, with various women playing key roles along the way, the ASME BED's Women's Networking Group has provided a forum for the dissemination of knowledge about award criteria and opportunities as well as an environment in which women at different professional levels can support each other. The number of women receiving ASME honors is increasing as is the visibility of female role models.

ARYA VYAVAHARE

CHARLES T. MAIN STUDENT LEADERSHIP GOLD AWARD

THE CHARLES T. MAIN AWARD WAS established in 1919 to recognize an undergraduate ASME student member whose leadership and service qualities have contributed, for a period of more than one year, to the programs and operation of a Student Section. In 1983 a second-place award (Silver) was added.

Arya Vyavahare, a graduate engineer trainee at Mercedes-Benz Research and Development India in Pune, is recognized for outstanding service as associate secretary, vice chair and subsequently chair of the ASME Student Section at MKSSS's Cummins College of Engineering for Women in Pune, India, which has resulted in expanded activities, increased membership and enhanced sponsorships.

Ms. Vyavahare has been an ASME volunteer since her freshman year at Cummins. She played a leadership role in Society functions including the EFx event at the college in 2019, which drew 350 participants. Ms. Vyavahare was selected to attend the virtual 2020 ASME Student Leadership Training Conference, and was a panelist and speaker for the LinkedIn Awareness Session at E-Fest Digital 2020. She participated in the ASME E-Fest Digital Oral Competition in 2021 and was the recipient of a third-place prize.

While pursuing her degree, Ms. Vyavahare worked on a team project on composites in collaboration with the Indian Army, for which the team placed second at the Spark 2k21 National Competition. She also interned at the research and development department of Piaggio Vehicles Pvt. Ltd. in Baramati, and worked on the design modification of a compressed natural gas cylinder mounting.

Ms. Vyavahare earned her bachelor of technology degree in mechanical engineering from Cummins in July 2021, and began working in the car design manufacturing department at Mercedes-Benz in August. While pursuing her studies, she was a three-year recipient of a Mercedes-in-Mech scholarship.

Among her other honors, Ms. Vyavahare was on a team that earned the first-place prize at Garrett Motion's Inter-College Project Competition in 2020.

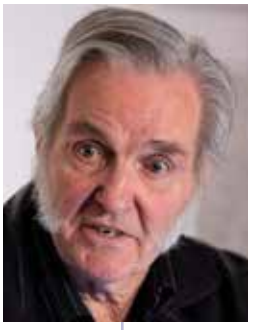
BURT RUTAN

Ralph Coats Roe Medal

The Ralph Coats Roe Medal, established in 1972, recognizes an outstanding contribution toward a better public understanding and appreciation of the engineer's worth to contemporary society.

Burt Rutan, CEO of Rutan Designs in Coeur d'Alene, Idaho, is recognized for extraordinary contributions as an entrepreneur, innovator and designer of 46 aircraft, five of which are on display at the Smithsonian's National Air and Space Museum; and for visionary efforts that have advanced technology and the public appreciation of aerospace engineering, composites and commercial space flight.

As the founder of two aircraft research firms, Rutan Aircraft Factory Inc. and Scaled Composites, LLC, Mr. Rutan has developed a large variety of groundbreaking projects. Through Rutan Aircraft, Mr. Rutan designed and developed the Voyager, the first aircraft to circle the world nonstop without refueling. Subsequently, Scaled Composites developed the GlobalFlyer, which broke the Voyager's record time for a non-refueled, solo flight around the world. These aircraft remain the only ones with non-refueled world flight capability. Scaled Composites also developed the Ultralite, an all-composite 100 mile-per-gallon show car for General Motors.



With Scaled Composites working as part of Mojave Aerospace Ventures in California, and with financial backing from Paul Allen, Mr. Rutan led the design and development of SpaceShipOne, the world's first privately built manned spacecraft that reached space in 2004. For this accomplishment, the team won a competition launched by the Ansari family in 1996 to spur the development of affordable space tourism, and was awarded the $10 million Ansari XPRIZE.

Among his extensive list of honors is the Presidential Citizen's Medal in 1986, the Robert J. Collier Trophy from the National Aeronautic Association in 1986 and 2004, and Lindbergh Foundation awards in 2000 and 2004.

Mr. Rutan earned his bachelor's degree in aerospace engineering from California Polytechnic State University in San Luis Obispo in 1965. He holds seven honorary doctorates.

ASME 2021 HONORS & AWARDS

Adaptive Structures and Material Systems Award

MARY I. FRECKER

The Adaptive Structures and Material Systems Award recognizes a senior researcher for a lifetime of significant contributions to the sciences and technologies associated with adaptive structures and/or material systems. Established by the Aerospace Division in 1993, it was elevated to a Society award in 2014.

Mary I. Frecker, Ph.D., the Leighton Riess chair in engineering, the mechanical engineering department head, and a professor of mechanical engineering and biomedical engineering at The Pennsylvania State University in University Park, is honored for successfully bridging two previously distinct research areas, adaptive structures and compliant mechanism design optimization; and for research contributions, including the development of systematic design methods, active materials development and structural integration, with applications in aerospace, medical devices and origami engineering.

Dr. Frecker became head of the department of mechanical engineering in August 2021. With Penn State since 1997, she is also the founding director of the Center for Biodevices.

Bergles-Rohsenow Young Investigator Award in Heat Transfer

NENAD MILJKOVIC

The Bergles-Rohsenow Young Investigator Award in Heat Transfer, established in 2003, recognizes an engineer who is committed to pursuing research in heat transfer and demonstrates the potential to make significant contributions in the field.

Nenad Miljkovic, Ph.D., an associate professor of mechanical science and engineering at the University of Illinois Urbana–Champaign, is recognized for significant contributions to the fundamental understanding of phase change heat transfer, particularly the dropwise condensation of steam, and the development of materials to enable the dropwise condensation of low surface tension fluids.

Dr. Miljkovic also leads the Energy Transport Research Laboratory; and he has courtesy appointments in electrical and computer engineering, and the Materials Research Laboratory. He is associate director of the Air Conditioning and Refrigeration Center, a National Science Foundation industry–university cooperative research center at UIUC.

Per Bruel Gold Medal for Noise Control and Acoustics

DAVID R. DOWLING

The Per Bruel Gold Medal for Noise Control and Acoustics was established in 1987 in honor of Dr. Bruel, who pioneered the development of sophisticated noise and vibration measuring and processing equipment. The medal recognizes eminent achievement and extraordinary merit in the field.

David R. Dowling, Ph.D., chair of the naval architecture and marine engineering department at the University of Michigan in Ann Arbor, is recognized for the pioneering development of novel and robust techniques for remote focusing of acoustic waves, and remote localization and characterization of sound sources in complicated, noisy and imperfectly known environments.

Dr. Dowling assumed his current position in July 2021. With U-M since 1992, he has taught and conducted funded research in acoustics and fluid mechanics. Dr. Dowling has authored/co-authored more than 200 conference presentations and more than 100 journal articles, and has supervised/co-supervised 22 doctoral students.

Thomas K. Caughey Dynamics Medal

MICHAEL P. PAIDOUSSIS

The Thomas K. Caughey Dynamics Medal recognizes an individual who has made significant contributions to the field of nonlinear dynamics through practice, research, teaching and/or outstanding leadership. Established in 2008 by the Applied Mechanics Division, it was elevated to a Society award in 2020.

Michael P. Paidoussis, ing., Ph.D., Thomas Workman emeritus professor at McGill University in Montreal, is honored for more than half a century of outstanding contributions in nonlinear dynamics of systems with fluid-structure interactions.

Dr. Paidoussis joined the department of mechanical engineering at McGill in 1967, was promoted to professor in 1976 and served as chair of the department from 1977 to 1986. He has authored several books on fluid-structure interactions, and published over 265 papers in refereed journals and 175 papers in refereed conference proceedings (h-index: 79).

Edwin F. Church Medal

EFSTATHIOS E. MICHAELIDES

The Edwin F. Church Medal, established in 1972, is awarded to an individual who has rendered eminent service that has increased the value, importance and attractiveness of mechanical engineering education.

Efstathios E. Michaelides, P.E., Ph.D., professor and W.A. Tex Moncrief Jr. chair of engineering at Texas Christian University in Fort Worth, is honored for the development of several noteworthy mechanical engineering programs, and for significant outreach efforts to increase diversity in mechanical engineering education.

Prior to joining TCU in 2011, Dr. Michaelides was chair of the department of mechanical engineering of The University of Texas at San Antonio, where he also held the Robert F. McDermott chair in engineering and was the founding director of the National Science Foundation-supported Center for Simulation, Visualization and Real-Time Prediction.

Daniel C. Drucker Medal

MARKUS J. BUEHLER

The Daniel C. Drucker Medal, established in 1997, recognizes distinguished contributions to the field of applied mechanics and mechanical engineering through research, teaching and service to the community.

Markus J. Buehler, Ph.D., the McAfee professor of engineering at the Massachusetts Institute of Technology in Cambridge, is honored for contributions to the use of molecular mechanics and chemical principles to elucidate the mechanics of natural and bio-inspired materials, and the design of mechanically optimized composite materials through hierarchical structuring from nano to macroscales.

At MIT, Dr. Buehler is also a member of the Center for Materials Science and Engineering, and the Center for Computational Science and Engineering at the Schwarzman College of Computing. He has authored more than 450 peer-reviewed publications, and his technical innovations have resulted in several patents.

William T. Ennor Manufacturing Technology Award

ALBERT SHIH

The William T. Ennor Manufacturing Technology Award was established in 1990 by the ASME Manufacturing Engineering Division and the Alcoa Company to recognize an individual or team for developing or contributing significantly to an innovative manufacturing technology, the implementation of which has resulted in substantial economic or societal benefits.

Albert Shih, P.E., Ph.D., a professor at the University of Michigan in Ann Arbor, is honored for contributions and leadership in biomedical manufacturing through the broadening of research collaborations and technology transfer; and for advancing the manufacturing of assistive devices that have improved the quality of healthcare.

Dr. Shih has also advanced the manufacturing technology in industry and academia. Among his contributions, he invented and implemented novel precision grinding processes for clean diesel fuel systems and engines, and he has recruited and trained a diverse group of students. In addition, Dr. Shih has served in the government on national manufacturing policy.

Fluids Engineering Award

STEVEN L. CECCIO

The Fluids Engineering Award was established by the Fluids Engineering Division in 1968. Elevated to a Society award in 1978, it recognizes outstanding contributions to the field over a period of years through research, practice and/or teaching.

Steven L. Ceccio, Ph.D., the Vincent T. and Gloria M. Gorguze professor of engineering and the associate dean for academic affairs at the University of Michigan College of Engineering in Ann Arbor, is recognized for outstanding contributions to hydrodynamics research, particularly experimental studies of cavitation and multiphase flows, and the development of novel measurement techniques for these flows.

On the faculty at U-M since 1990, Dr. Ceccio is also a professor of naval architecture and marine engineering, and of mechanical engineering and applied mechanics. Among his prior positions, Dr. Ceccio served as director of the Naval Engineering Education Center (2010-15), chair of the department of NAME (2011-16) and associate dean for research at the College of Engineering (2017-20).

Freeman Scholar Award

RAJAT MITTAL

The Freeman Scholar Award, established in 1970, is bestowed upon a person of wide experience in fluids engineering. The recipient is expected to review a topic in his or her specialty, including a comprehensive statement of the state of the art, and suggest future research needs.

Rajat Mittal, Ph.D., a professor of mechanical engineering at Johns Hopkins University in Baltimore with a secondary appointment in the School of Medicine, is honored for the paper titled "Advanced Immersed Boundary Methods in Fluid Dynamics."

Dr. Mittal's research interests include fluid mechanics, computing, biomedical engineering, biofluids and flow control. He is associate editor of the *Journal of Computational Physics* and *Frontiers of Computational Physiology and Medicine*, and serves on the editorial board of the *Journal of Experimental Biology* and the *International Journal for Numerical Methods in Biomedical Engineering*.

Y.C. Fung Early Career Award

KRISTIN S. MILLER

The Y.C. Fung Young Investigator Award was established by the Bioengineering Division in 1985, elevated to a Society award in 1998 and renamed in 2017. The award recognizes an individual who is committed to pursuing research in bioengineering and has demonstrated significant potential to make substantial contributions to the field.

Kristin S. Miller, Ph.D., an associate professor of biomedical engineering at Tulane University in New Orleans, is recognized for advancing the fundamental understanding of reproductive biomechanics through the pioneering development of methods to elucidate mechanobiological processes in the female reproductive system related to smooth muscle cell contractility.

Since joining Tulane and starting her laboratory in 2014, Dr. Miller has published more than 20 peer-reviewed journal articles and has several more in peer review. Dr. Miller has served as a reviewer for the National Science Foundation and for over 90 articles for leading archival journals.

Gas Turbine Award

MASHA FOLK
ROBERT J. MILLER
JOHN COULL

Established in 1963, the Gas Turbine Award recognizes outstanding contributions to the literature of combustion gas turbines or gas turbines thermally combined with nuclear or steam power plants. The award is sponsored by the ASME International Gas Turbine Institute.

Masha Folk, Ph.D., a turbine aerodynamics specialist at Rolls-Royce Corporation in Indianapolis; Robert J. Miller, D.Phil., a professor of aerothermal technology at the University of Cambridge, U.K.; and John Coull, Ph.D., a senior research fellow in gas turbine aerodynamics at the University of Oxford, U.K., are recognized for the paper titled "The Impact of Combustor Turbulence on Turbine Loss Mechanisms."

Dr. Folk joined Rolls-Royce in 2010 on the graduate scheme. After completing the selective two-year training program, she worked in the turbine aerodynamics group in Indianapolis. In 2014 she was accepted into a gas turbine aerodynamics doctoral program at the University of Cambridge under the supervision of Dr. Robert J. Miller with support and funding from Rolls-Royce. In 2020 she completed her Ph.D. and returned to Rolls-Royce in Indianapolis.

At Cambridge, Dr. Miller has served as director of the Whittle Laboratory and director of the Rolls-Royce Whittle University Technology Centre. His research focuses on the decarbonisation of the aerospace and power generation sectors. He holds 11 patents and works closely with industries such as Rolls-Royce, Mitsubishi Heavy Industries, Siemens and Dyson.

After earning his master's and Ph.D. from the University of Cambridge, Dr. Coull was appointed as Rolls-Royce senior research fellow at Magdalene College in 2010. He joined the faculty at Oxford in 2019, and his primary research interest is to understand the fundamental drivers of gas turbine performance. He has authored over 20 journal publications and has seven patents (granted/pending).

Melvin R. Green Codes and Standards Medal

WALTER J. SPERKO

The Melvin R. Green Codes and Standards Medal was established in 1976 as the Codes and Standards Medal and renamed in 1996 to honor the memory and extraordinary contributions of an ardent supporter of industrial standards.

Walter J. Sperko, P.E., president of Sperko Engineering Services, Inc. in Greensboro, N.C., is recognized for outstanding contributions to the development of ASME pressure equipment and nuclear standards and certification programs, and for promoting them internationally; for providing training in Society standards; and for facilitating the harmonization of ISO and ASME welding standards.

Mr. Sperko has been providing welding and metallurgical engineering consulting services, specializing in piping, boilers and pressure vessels, to the metal fabrication industry since 1981. He has been a member of various ASME Boiler and Pressure Vessel Code committees since 1979, and B31 Code for Pressure Piping Standards committees since 1994.

J.P. Den Hartog Award

BALAKUMAR BALACHANDRAN

The J.P. Den Hartog Award, established by the Design Engineering Division in 1987 and elevated to a Society award in 2010, recognizes lifetime contributions to the teaching and practice of vibration engineering.

Balakumar Balachandran, Ph.D., chair and Minta Martin professor of engineering at the University of Maryland, College Park, is honored for advancing the understanding of nonlinear vibrations through textbooks related to vibrations and through research publications on nonlinear oscillations of mechanical and structural systems.

Dr. Balachandran is a faculty member of mechanical engineering, and applied mathematics and scientific computation at UMD, where he has been since 1993. His research interests include nonlinear phenomena, dynamics and vibrations, and control. Dr. Balachandran recently completed his terms as the editor of ASME's *Journal of Computational and Nonlinear Dynamics* and a contributing editor of the *International Journal of Non-Linear Mechanics*.

Heat Transfer Memorial Awards

The Heat Transfer Memorial Award, established in 1959 by the Heat Transfer Division and elevated to a Society award in 1974, recognizes outstanding contributions to the field through teaching, research, practice and/or design.

LAURENT PILON - SCIENCE

Laurent Pilon, Ph.D., a professor in the mechanical and aerospace engineering department at the University of California, Los Angeles, is recognized for seminal and interdisciplinary contributions to the field of heat transfer, combined with interfacial phenomena, materials science and electrochemistry, for the development of sustainable energy technologies.

Dr. Pilon and his collaborators have authored six book chapters and more than 170 archival journal publications, and filed seven patents. Over the last 19 years, he has advised 22 master's students, 30 Ph.D. students and five postdoctoral scholars. Dr. Pilon is an associate editor of ASME's *Journal of Electrochemical Energy Conversion and Storage*.

MICHAEL OHADI - ART

Michael Ohadi, Ph.D., a Minta Martin professor of mechanical engineering at University of Maryland, College Park, is recognized for pioneering contributions in the application of electrohydrodynamics to enhanced heat and mass transfer, liquid-vapor separation and micropumping processes; in novel heat and mass transfer designs for single phase and phase change processes; and in the development of novel, additively manufactured heat exchangers for polymer and polymer composites, and metals and super alloys.

Dr. Ohadi joined UMD in 1990. His research has been cross-disciplinary and team-based, with active collaborations with materials science and engineering, and chemical and electrical engineering disciplines. He served as program director at the U.S. Department of Energy's Advanced Research Project Agency–Energy (2016-20).

WEBB MARNER - GENERAL

Webb Marner, Ph.D., an adjunct professor of mechanical and aerospace engineering at the University of California, Los Angeles, is recognized for extensive, exemplary contributions to ASME, the Society's Heat Transfer Division and the thermal science community through technical experience in industry, academia and government.

Dr. Marner's professional career includes a faculty position at the South Dakota School of Mines and Technology in Rapid City and technical staff positions at Heat Transfer Research, Inc. in Alhambra, Calif. In 1980 he joined the California Institute of Technology's Jet Propulsion Laboratory in Pasadena, where he spent most of his career. Dr. Marner began teaching thermal science and system design courses at UCLA in 1991.

Mayo D. Hersey Award

ITZHAK GREEN

The Mayo D. Hersey Award, established in 1965, is bestowed for distinguished and continued contributions to the advancement of the science and engineering of tribology. Contributions may result from original research in one of the many scientific disciplines related to lubrication.

Itzhak Green, D.Sc., a professor of mechanical engineering at the Georgia Institute of Technology in Atlanta, is honored for outstanding contributions to tribology and design, particularly more than 150 papers and reports primarily on gas and liquid triboelements, rotordynamics, integrated diagnostics, mechanical face seals, viscoelastic dampers, elasto-plastic contact and computer-aided design of machine elements.

Dr. Green chairs the Tribology Research Area Group at Georgia Tech, where he has been a member of the faculty since 1985. An internationally recognized expert on machine design, rotordynamics and tribology, he currently serves on the editorial boards for the journals *Shock and Vibration* and *Friction*.

Patrick J. Higgins Medal

A. RICHARD EMMERSON

The Patrick J. Higgins Medal recognizes an individual who has contributed to the enhancement of standardization through

contributions to the development and promotion of ASME codes and standards or conformity assessment programs. It was established in 2007 in remembrance of ASME's past vice president of the standardization department.

A. Richard Emmerson is recognized for outstanding contributions to the improvement of technical specifications for the plumbing profession; and for effective leadership on the ASME A112 Standards Committee on Plumbing Materials and Equipment, and dedicated efforts on the harmonization process between the U.S. and Canada.

Mr. Emmerson has represented various plumbing and heating equipment manufacturers in codes and standards development. In addition to providing ASME with technical insights that have positively impacted the safety of plumbing systems, he has served on committees of Plumbing Manufacturers International, ASSE International and the CSA Group. Mr. Emmerson participated in the development of four white papers by the ASSE Scald Awareness Task Group (2013-20).

Internal Combustion Engine Award

GAUTAM KALGHATGI

The Internal Combustion Engine Award, established in 1966, is given in recognition of eminent achievement or distinguished contributions over a substantial period of time that have advanced the art of engineering in the field.

Gautam Kalghatgi, Ph.D., is recognized for game-changing contributions to the understanding of fuel effects in spark ignition, homogeneous charge compression ignition and compression ignition engines, particularly influential work on fuel auto-ignition quality, knock onset and intensity, preignition, engine deposits, cyclic variation and the future evolution of transport energy.

Prior to his retirement in 2018, Dr. Kalghatgi worked for 31 years at Shell Research in the U.K. followed by eight years at Saudi Aramco. He has been a visiting professor at prestigious universities in the U.K. and at KTH Royal Institute of Technology in Stockholm and Eindhoven University of Technology in the Netherlands. Dr. Kalghatgi serves on The Combustion Institute board of directors and on editorial boards of several journals. He has published one book and ~140 papers (h-index: 54).

Warner T. Koiter Medal

GERHARD A. HOLZAPFEL

The Warner T. Koiter Medal was established in 1996 to recognize distinguished contributions to the field of solid mechanics with special emphasis on the effective blending of theoretical and applied elements, and on a high degree of leadership in the international solid mechanics community. The medal honors the late Dr. Koiter, world-renowned authority in the field.

Gerhard A. Holzapfel, Ph.D., Dr. habil., a professor of biomechanics and head of the Institute of Biomechanics at Graz University of Technology in Austria, is recognized for outstanding contributions to the application of solid mechanics in the development of continuum theory, computational methods, simulations and experiments in the biomechanics of soft biological materials; and for international leadership in the field through editorships, conference organization, mentoring and Ph.D.-level education.

In his current positions at Graz since 2007, Dr. Holzapfel is also an adjunct professor at the Norwegian University of Science and Technology and a visiting professor at the University of Glasgow, U.K. His publications include a graduate textbook and over 230 peer-reviewed journal articles. Dr. Holzapfel is co-founder and co-editor of *Biomechanics and Modeling in Mechanobiology*.

Robert E. Koski Medal

HUAYONG YANG

The Robert E. Koski Medal recognizes an individual who has advanced the art and practice of fluid power motion and control through education and/or innovation. It was established in 2007 by the Fluid Power Systems and Technology Division to honor Mr. Koski's contributions to the fields of design engineering, and dynamic systems and control.

Huayong Yang, Ph.D., dean of the School of Mechanical Engineering at Zhejiang University in Hangzhou, China, is honored for outstanding research in fluid power that has resulted in fruitful contributions to numerous scientific publications and the transfer of gained knowledge to industrial applications.

Dr. Yang is an expert in fluid power transmission and control. His research on the development of tunnel boring machines focused mainly on accurate pressure control, compliance design for sudden change of load and predictive posture control. Dr. Yang contributed to the technical solutions to overcome instability of ground settlement, failure of key components and misalignment of tunnel direction in the process of tunnel excavation.

Allan Kraus Thermal Management Medal

ISSAM MUDAWAR

The Allan Kraus Thermal Management Medal, established in 2009, recognizes an individual who has demonstrated outstanding achievements in thermal management of electronic systems and their commitment to the field of thermal science and engineering.

Issam Mudawar, Ph.D., the Betty Ruth and Milton B. Hollander family professor of mechanical engineering at Purdue University in West Lafayette, Ind., is recognized for 35 years of pioneering accomplishments and international leadership in high-heat-flux two-phase thermal management of electronics, and its impact on the cooling of computers, data centers, hybrid and all-electric vehicles, defense electronics and space vehicles.

On the faculty at Purdue University since 1984, Dr. Mudawar established and is director of both the Boiling and Two-Phase Flow Laboratory and the International Electronic Cooling Alliance. He was appointed Hollander family professor in 2015. Dr. Mudawar has written over 250 archival journal publications (h-index: 96), and he has supervised 65 graduate students.

Frank Kreith Energy Award

ROBERT PITZ-PAAL

The Frank Kreith Energy Award was established in 2005 to honor an individual for significant contributions to a secure energy future with particular emphasis on innovations in conservation and/or renewable energy. The award was established by the Solar Energy and Advanced Energy divisions to honor Dr. Frank Kreith's contributions to solar energy and heat transfer.

Robert Pitz-Paal, Dr.-Ing., co-director of the Institute of Solar Research at the German Aerospace Center (Deutsches Zentrum für Luft- und Raumfahrt) in Cologne, is honored for enabling the commercialization of several key concentrating solar technologies through the development of solutions that demonstrated reliability and performance, validation and risk reduction for industry; and for educating a workforce of engineers, many of whom have been instrumental in gaining policymaker support for concentrating solar power technology.

Dr. Pitz-Paal is one of the two directors of the DLR Institute of Solar Research, a position jointly assigned with a professorship at Aachen University. He is also chair of the SolarPACES (Solar Power and Chemical Energy Systems) Technology Collaboration Programme of the International Energy Agency and a member of the board of the German Association for Concentrated Solar Power.

Bernard F. Langer Nuclear Codes and Standards Award

TIMOTHY M. ADAMS

The Bernard F. Langer Nuclear Codes and Standards Award was established in 1977 and is presented to an individual who has contributed to the nuclear power plant industry through the development and promotion of ASME nuclear codes and standards or the ASME Nuclear Certification Program.

Timothy M. Adams, a senior consultant with Jensen Hughes in Independence, Ohio, is recognized for technical contributions to ASME codes and standards, particularly Boiler and Pressure Vessel Code Section III–Rules for Construction of Nuclear Facility Components; and for supporting the Society's global outreach and training efforts.

Mr. Adams has over 45 years of experience in the design of pressure retaining components to ASME's BPVC Section III and Section VIII-Rules for Construction of Pressure Vessels, and the Society's B31 and NM series Piping Codes. His expertise includes the application of industry consensus codes and standards for the electric power generation, petrochemical and process

industries; and for U.S. Department of Energy nuclear waste processing facilities.

Wilfred C. LaRochelle Conformity Assessment Award

RICHARD R. STEVENSON

The Wilfred C. LaRochelle Conformity Assessment Award, established in 2017, recognizes distinguished service in the area of conformity assessment including, but not limited to, the establishment, advancement and promotion of the Society's product and personnel certification and accreditation programs.

Richard R. Stevenson, president of Richard R. Stevenson, P.E., and Associates, LLC in Tyngsboro, Mass., is recognized for exemplary service in ASME conformity assessment and in promoting the worldwide expansion of nuclear certification; and for more than three decades of contributions as a member or officer of numerous technical and conformity assessment committees.

Mr. Stevenson held various positions within quality assurance, quality control and quality engineering leading up to his current position. He joined Stone & Webster in 1973 and was with the company for 46 years. In addition to his experience with ASME and National Board conformity assessment programs in the nuclear power industry, Mr. Stevenson has been active on numerous ASME Boiler and Pressure Vessel Code committees.

Gustus L. Larson Memorial Award

PATRICK E. HOPKINS

The Gustus L. Larson Memorial Award was established in 1974 to honor an ASME Fellow and founder of Pi Tau Sigma. It is awarded to the engineering graduate who has demonstrated outstanding achievement in mechanical engineering within 10 to 20 years following receipt of their bachelor's degree.

Patrick E. Hopkins, Ph.D., a professor in the department of mechanical and aerospace engineering at the University of Virginia in Charlottesville, with courtesy appointments in the departments of materials science and engineering, and physics, is honored for outstanding achievement in mechanical engineering.

Dr. Hopkins' research interests are in energy transport, charge flow, laser-chemical processes and photonic interactions with condensed matter, soft materials, liquids, vapors and their interfaces. He is the founder and director of the ExSiTE (Experiments and Simulations in Thermal Engineering) Lab at UVA. Dr. Hopkins has authored/co-authored over 250 peer-reviewed papers and been awarded four patents.

H.R. Lissner Medal

C. ROSS ETHIER

The H.R. Lissner Medal, established by the Bioengineering Division in 1977 and elevated to a Society award in 1987, recognizes outstanding achievements in the field of bioengineering.

C. Ross Ethier, P.Eng., Ph.D., the Lawrence L. Gellerstedt Jr. chair in bioengineering and a Georgia Research Alliance Eminent Scholar in biomechanics and mechanobiology in the Wallace H. Coulter department of biomedical engineering at the Georgia Institute of Technology and Emory University School of Medicine in Atlanta, is honored for outstanding contributions to the biomechanics of intraocular pressure regulation and optic nerve head biomechanics in glaucoma; for training and mentoring the next generation of biomechanical engineers; and for internationally recognized leadership within the biomechanics community.

Dr. Ethier's research is in the biomechanics of cells and whole organs. He has published approximately 200 refereed journal articles and two books, and his work has garnered more than 14,000 citations (h-index: 70).

Charles T. Main Student Leadership Silver Award

SAMANTHA R. HOOVER

The Charles T. Main Award was established in 1919 to recognize an undergraduate ASME student member whose leadership and service qualities have contributed, for a period of more than one year, to the programs and operation of a Student Section. In 1983 a second-place award was added.

Samantha Hoover, a mechanical engineer with Spee-Dee Packaging Machinery, Inc. in Sturtevant, Wis., is recognized for revitalizing the ASME Student Section at the Milwaukee School of Engineering through three years of outstanding service as president; and for leadership efforts at the regional level to help other student sections improve and grow.

Ms. Hoover joined Spee-Dee after earning her bachelor's degree in mechanical engineering from MSOE in May 2021. Since June 2021, she has been serving as Student Section revitalization coordinator–Midwest.

M. Eugene Merchant Manufacturing Medal of ASME/SME

SCOTT SMITH

The M. Eugene Merchant Manufacturing Medal was established in 1986 by ASME and SME to honor an exceptional individual who has had significant influence and responsibility for improving the productivity and efficiency of the manufacturing operation.

Scott Smith, Ph.D., group leader for intelligent machine tools at Oak Ridge National Laboratory in Knoxville, Tenn., is recognized for fundamental and translational research contributions that have improved both material removal rates and accuracy in highly engineered components in the automotive and aerospace sectors.

Since joining ORNL in 2019, Dr. Smith has been leading the advanced machining and machine tool research with a focus on developing and deploying machine tool systems, processes, measurements, sensors and controls. Previously, he was professor and chair of mechanical engineering at The University of North Carolina at Charlotte. He holds 11 patents, and is the author of more than 100 technical papers and co-author of two books.

Van C. Mow Medal

RAFAEL V. DAVALOS

The Van C. Mow Medal, established by the ASME Bioengineering Division in 2004, is presented for significant contributions to the field of bioengineering through research, education, professional development, leadership in the development of the profession, mentoring of young bioengineers, and service to the bioengineering community.

Rafael V. Davalos, Ph.D., the L. Preston Wade professor in the Virginia Tech – Wake Forest University School of Biomedical Engineering and Sciences, and director of the ICTAS (Institute for Critical Technology and Applied Science) Center for Engineered Health in Blacksburg, Va., is recognized for outstanding contributions in biotransport and cancer treatment, particularly for distinct, yet complementary, inventions that are used to fight the full spectrum of cancer, from early detection and isolation of cancer stem cells to metastasis and treatment.

Dr. Davalos holds adjunct appointments in mechanical engineering and the Wake Forest Comprehensive Cancer Center. He has 31 issued patents, and his technology has been licensed to six companies.

Nadai Medal

MICHAEL THOULESS

The Nadai Medal was established in 1975 to recognize significant contributions and outstanding achievements that broaden the field of materials engineering.

Michael Thouless, CEng, Ph.D., the Janine Johnson Weins professor of engineering, an Arthur F. Thurnau professor, and an associate chair of the mechanical engineering department at the University of Michigan in Ann Arbor, is recognized for seminal studies of fracture and plasticity of thin films, layered materials and adhesive materials, particularly pioneering efforts related to all aspects of cohesive zone modeling.

Dr. Thouless has been with U-M since 1995. With collaborators at the university, he has pioneered fracture-fabrication techniques for nanoscale devices; and developed novel design strategies for protection against blast and impact, and for protection against ice adhesion. Dr. Thouless has published 178 papers, and he has 10 patents.

Sia Nemat-Nasser Early Career Award

YUHANG HU

The Sia Nemat-Nasser Early Career Award recognizes research excellence in experimental, computational or theoretical aspects of

mechanics of materials by an individual within 10 years following receipt of their Ph.D. degree. Established by the Materials Division in 2008, it was elevated to a Society award in 2012.

Yuhang Hu, Ph.D., an assistant professor in the George W. Woodruff School of Mechanical Engineering, and the School of Chemical and Biomolecular Engineering at the Georgia Institute of Technology in Atlanta, is honored for pioneering contributions to the field of soft active materials through research at the interface of mechanics and materials chemistry that combines theory with simulations and experiments, and spans from fundamental mechanics to novel applications.

At Georgia Tech, Dr. Hu has established an internationally visible and externally funded research program. She has published more than 50 peer-reviewed papers, and has delivered seminars and talks at conferences and peer institutions.

Robert M. Nerem Education and Mentorship Medal

MAURY L. HULL

The Robert M. Nerem Education and Mentorship Medal, established by the Bioengineering Division in 2017, recognizes an individual who has demonstrated a sustained level of outstanding achievement in education and mentoring of trainees.

Maury L. Hull, Ph.D., distinguished professor emeritus in the departments of biomedical engineering, mechanical and aerospace engineering, and orthopaedic surgery at the University of California, Davis, is honored for profoundly influencing the field of bioengineering through exceptional teaching and mentorship, from developing new courses and unique lab experiments to advising more than 80 graduate students.

Dr. Hull joined UC Davis in 1976. From 1993 to 2000, he was chair of the biomedical engineering graduate program and played a leadership role in creating a new department of biomedical engineering that launched in 2001. Distinguished professor since 2012, he currently directs the Orthopaedic Biomechanics Laboratory in the department of orthopaedic surgery at UC Davis Medical Center in Sacramento.

Edward F. Obert Award

JESSE WATJEN
MATTHEW T. SCHIFANO
MITRA N. SEXTON

The Edward F. Obert Award was established in 1987 by the Advanced Energy Systems Division to recognize an outstanding paper on thermodynamics. It was elevated to a Society award in 1996.

Jesse Watjen, Ph.D., a senior engineer; Matthew T. Schifano, an engineer; and Mitra N. Sexton, P.E., mechanical engineering manager, all at the Naval Nuclear Laboratory in Niskayuna, N.Y., are recognized for the paper titled "Maximum Condensable Pressure in a Sealed Container With Arbitrary Temperature Distribution."

Dr. Watjen completed his graduate studies under Dr. Zhuomin Zhang in the Nanoscale Thermal Radiation Laboratory research group at the Georgia Institute of Technology in Atlanta, earning his Ph.D. in 2016. At the NNL for the past five years, he has been working as a thermal safety analyst for nuclear fuel applications.

Mr. Schifano is lead engineer in the NNL area that performs thermal safety analyses for spent nuclear fuel to support the U.S. Navy submarines and aircraft carriers. Responsibilities include performing finite element modeling analyses and coordinating with system/equipment designers to ensure nuclear safety for near-term operations as well as long-term disposal.

Ms. Sexton has contributed to engineering efforts at Lockheed Martin and the NNL. She has made significant contributions to space satellites and nuclear propulsion power plants by implementing state-of-the-art coupled thermal-fluid-structural multiphysics modeling methods to predict performance and optimize design of system aspects. Ms. Sexton leads a team of engineers to ensure the safety of spent nuclear fuel during its lifetime.

Old Guard Early Career Award

NICOLE SALLOUM

The Old Guard Early Career Award was established in 1994 to help the young engineer bridge the gap between college and professional life. It recognizes an individual who has advanced quickly in their professional career, is continuing their education, has shown leadership in ASME activities and is an active volunteer in their community.

Nicole Salloum, an independent management and strategy consultant, is recognized for outstanding leadership as an ASME volunteer and interdisciplinary professional, applying a passion for teaching and learning, and an entrepreneurial drive to positively impact future generations of engineers and business leaders; and for proactively seeking community service opportunities to improve the lives of others.

Through professional experience across a variety of sectors, Ms. Salloum was able to develop frameworks to support businesses in achieving their goals. As a consultant, she takes on projects that she is passionate about including digital transformation strategies, marketing campaigns, partnership proposals and investment request proposals.

Rufus Oldenburger Medal

S. SHANKARA SASTRY

The Rufus Oldenburger Medal was established in 1968 and is given in recognition of significant contributions and outstanding achievement in the field of automatic control.

S. Shankara Sastry, Ph.D., the Thomas M. Siebel professor of computer science; and a professor of electrical engineering and computer sciences, mechanical engineering and bioengineering at the University of California, Berkeley, is honored for fundamental contributions to the foundations of nonlinear, adaptive and hybrid control of robots and vehicles; and for efforts that have had a significant impact on control and robotics education.

At UC Berkeley, Dr. Sastry has been the director of the Blum Center for Developing Economies since 2007. Since 2020 he is the co-director of the C3.ai Digital Transformation Institute, a consortium of seven universities developing digital transformation at the intersection of the internet of things, artificial intelligence/machine learning and mechanism design for new services.

Outstanding Student Section Advisor Award

CHARBEL BOU-MOSLEH

The Outstanding Student Section Advisor Award, established in 1990 as the Faculty Advisor Award, recognizes the leadership and service qualities of an ASME Student Section Advisor who has completed at least three academic years in that role.

Charbel Bou-Mosleh, Ph.D., an associate professor in the mechanical engineering department at Notre Dame University–Louaize in Lebanon, is recognized for outstanding leadership and dedicated service as ASME Student Section advisor at the university since 2013; and for tireless efforts encouraging students to become and stay involved with the Society at NDU and as professional members after graduation.

A member of the faculty at NDU since 2009, Dr. Bou-Mosleh currently teaches courses in the areas of thermal sciences and aerodynamics. His research interests are in computational mechanics, reduced-order modeling, fluid-structure interactions, mesh generation, modeling and simulation, and renewable energy.

Performance Test Codes Medal

THOMAS C. WHEELOCK

The Performance Test Codes Medal, established in 1981, is awarded for outstanding contributions to the development and promotion of ASME Performance Test Codes, including the supplements on instruments and apparatus.

Thomas C. Wheelock, P.E., vice president of business development at McHale & Associates, Inc. in Knoxville, Tenn., is recognized for outstanding leadership contributions to performance test codes, particularly for the testing of gas turbines, overall plant performance and power measurements; and for sharing PTC knowledge regarding technical personnel, instrumentation, test direction, and test data analysis and reporting.

Mr. Wheelock has more than 25 years of extensive project management, commissioning and performance testing experience. At McHale, he is responsible for business development, marketing, sales and project management. Prior to

joining McHale, Mr. Wheelock was director of performance services at the Power Generation Technologies Division of Environmental Systems Corporation (1996-2004).

Pi Tau Sigma Gold Medal

YANGYING ZHU

The Pi Tau Sigma Gold Medal was established in 1938 by Pi Tau Sigma in coordination with ASME to recognize outstanding achievement in mechanical engineering by an engineering graduate within 10 years following receipt of their bachelor's degree.

Yangying Zhu, Ph.D., an assistant professor in the mechanical engineering department at the University of California, Santa Barbara, is recognized for outstanding achievement in mechanical engineering.

Dr. Zhu's research combines fundamental understanding in heat and mass transfer with novel materials fabrication and characterization capabilities to address challenges in energy storage, thermal management of electronics, electro-catalysis, water harvesting and transmittance of respiratory diseases. She has made important contributions in understanding and manipulating phase-change thermal transport using micro/nanostructures. Dr. Zhu also pioneered the use of micro-Raman spectroscopy for in situ temperature sensing of battery electrodes.

James Harry Potter Gold Medal

TATIANA MOROSUK

The James Harry Potter Gold Medal was established in 1980 to recognize eminent achievement or distinguished service in the science of thermodynamics and its applications in mechanical engineering.

Tatiana Morosuk, Ph.D., Dr. habil., head of the exergy-based methods for refrigeration systems department at Technische Universität Berlin, is recognized for outstanding and innovative contributions to the science of theoretical and applied thermodynamics, particularly eminent teaching and research in the areas of advanced exergy-based methods, refrigeration and cryogenic processes, and electric power generation plants.

Dr. Morosuk also serves as deputy director of the Institute for Energy Engineering at TU Berlin (2015-17; 2021-). In 2015 she began serving as a study dean for two international master's programs, and that same year two additional programs were established under her leadership. Dr. Morosuk has supervised/co-supervised 16 Ph.D. and more than 100 master's theses. She has published eight books and more than 400 research papers, and she has 10 patents.

Dixy Lee Ray Award

ASHWANI K. GUPTA

The Dixy Lee Ray Award, established in 1998, recognizes significant achievements and contributions in the broad field of environmental protection. It honors not only those who have contributed to the enhancement of environmental engineering, but also those who have contributed to other disciplines where accomplishments have indirectly impacted environmental protection.

Ashwani K. Gupta, Ph.D., D.Sc., a distinguished university professor at the University of Maryland, College Park, is honored for pioneering fundamental contributions to the development of green combustion technology, which is now used worldwide in advanced industrial furnaces and process industries with demonstrated near-zero emission of pollutants, CO2 emission reduction, low noise, significant energy savings and better quality of product produced.

At UMD, Dr. Gupta founded and directs the Combustion Laboratory. He has co-authored over 800 papers and three books, and has edited 19 books. Dr. Gupta is editor-in-chief of the *International Journal of Energy for a Clean Environment*.

Charles Russ Richards Memorial Award

WEI CHEN

The Charles Russ Richards Memorial Award, established in 1944, was named in honor of a founder of Pi Tau Sigma. It is presented to an engineering graduate who has demonstrated outstanding achievement in mechanical engineering for 20 years or more following receipt of their bachelor's degree.

Wei Chen, Ph.D., the Wilson-Cook professor in engineering design and chair of the department of mechanical engineering at Northwestern University in Evanston, Ill., is honored for outstanding achievement in mechanical engineering.

Dr. Chen's groundbreaking contributions have advanced both the theoretical development and practical applications of simulation-based design under uncertainty. Over the past decade, she has pioneered the use of statistical analysis, artificial intelligence and uncertainty quantifications for designing emerging materials systems. Dr. Chen's leadership in advancing interdisciplinary research has contributed to the establishment of new research areas in engineering design, and her methods have been integrated into commercial software widely used in industry.

Safety Codes and Standards Medal

D. YOGI GOSWAMI

The Safety Codes and Standards Medal was established in 1986 to recognize contributions to the enhancement of public safety through the development and promotion of ASME safety codes and standards or through ASME safety accreditation activities.

D. Yogi Goswami, Ph.D., a distinguished university professor and director of the Clean Energy Research Center at the University of South Florida in Tampa; and co-founder and chief science officer of Molekule, Inc., is recognized for exceptional leadership of the TES Standards Committee in the development and publication of the first edition of TES-1, Safety Standard for Thermal Energy Storage Systems: Molten Salt.

Over the last 45 years Dr. Goswami has conducted research on solar energy, energy storage, thermodynamics and indoor air quality. As an author or editor, he has published 22 books and more than 400 scientific papers. Dr. Goswami served as the editor-in-chief of *Solar Energy* for 18 years and is now emeritus editor-in-chief. He holds 31 patents.

R. Tom Sawyer Award

ROBERT E. KIELB

The R. Tom Sawyer Award, established in 1972, is bestowed upon an individual who has made important contributions toward the advancement of the gas turbine industry, as well as the ASME International Gas Turbine Institute, over a substantial period of time.

Robert E. Kielb, P.E., Ph.D., professor of the practice at Duke University in Durham, N.C., is honored for career contributions in turbomachinery propulsion while working in government, industry and academia; and for dedicated service to ASME in roles ranging from author and editor to technical committee chair and IGTI chair.

Dr. Kielb has nearly 50 years of experience in turbomachinery propulsion. He is director of the GUIde Consortium (two government organizations, five universities and 11 companies) that is working on aeromechanical issues. Since 2008 he has served as Duke coordinator for the EU-funded THRUST MEng Program through which students spend a year at Duke and a year at the KTH Royal Institute of Technology in Stockholm, where Dr. Kielb is an affiliated professor.

Lakshmi Singh Early Career Leadership Award

SARA WHEELAND

The Lakshmi Singh Early Career Leadership Award, established in 2020, recognizes a female engineer who has demonstrated considerable leadership in, commitment to, and continued service with ASME.

Sara Wheeland, Ph.D., a radio frequency and mechanical engineer at the Naval Information Warfare Center Pacific in San Diego, is honored for ongoing contributions to ASME including service as a member-at-large for the Public Affairs and Outreach sector and as vice chair of Programs for the Volunteer Orientation and Leadership Training Academy Executive Committee.

Dr. Wheeland joined NIWC Pacific in 2015 as a research engineer in the area of mechanical control of electromagnetic effects and wave dynamics. In her current position at NIWC since 2016, she serves as head

of the Materials Integrity Lab. Dr. Wheeland is an active volunteer in STEM outreach programs through her involvement with ASME and the Society of Women Engineers as well as the Science Olympiad. She holds one patent.

Ben C. Sparks Medal

SARIM N. AL-ZUBAIDY

The Ben C. Sparks Medal, established in 1990, recognizes eminent service by an individual or collaborative team in promoting innovative, authentic, practice-based, engineering design/build experiences in undergraduate mechanical engineering or mechanical engineering technology education.

Sarim N. Al-Zubaidy, CEng, CPEng, IntPE, Ph.D., professor and executive vice president of the University of The Bahamas in Nassau, is honored for transforming engineering education through outstanding contributions including the design of the Make Space lab, a cost-effective and integrated environment to support project-based and problem-based learning for all engineering disciplines; and the introduction of engineering systems design courses at three universities to expose students to the world of engineering through a mix of design projects, interactive workshops and lectures.

Dr. Al-Zubaidy has more than 30 years of experience in executive, administrative and academic positions in a variety of higher-education institutions in New Zealand, Australia, Malaysia, Kazakhstan, the United Arab Emirates, Oman, the U.K. and the Caribbean. He joined UB in January 2021.

Ruth and Joel Spira Outstanding Design Educator Award

TIMOTHY W. SIMPSON

The Ruth and Joel Spira Outstanding Design Educator Award was established as a division award in 1998. Elevated to a Society award in 2001, it recognizes a person who exemplifies the best in furthering engineering design education.

Timothy W. Simpson, Ph.D., the Paul Morrow professor of engineering design and manufacturing at The Pennsylvania State University in University Park, is recognized for effective and sustained contributions to industry–faculty–student engagement that enhance engineering education, foster professional and workforce development, and ensure broader impacts.

Dr. Simpson is also director of the world's first Additive Manufacturing and Design Graduate Program and co-director of the Center for Innovative Materials Processing through Direct Digital Deposition (CIMP-3D) at Penn State. He has received over $50 million in support of his research and teaching initiatives. Dr. Simpson has published over 400 peer-reviewed papers, and he was the lead editor on two textbooks.

Spirit of St. Louis Medal

DAROLD B. CUMMINGS

The Spirit of St. Louis Medal was established in 1929 by Philip D. Ball, ASME members and citizens of St. Louis. It is awarded for meritorious service in the advancement of aeronautics and astronautics.

Darold B. Cummings, president of ForzAero in Coeur d'Alene, Idaho, is honored for more than five decades of outstanding and sustained contributions to the design, development and testing of military and commercial aircraft, including the YF-23 in the '80s and the most recent design of a NASA X-plane, the eMSTAR.

Mr. Cummings began his career at Rockwell (unit later acquired by Boeing) in 1967, moved to Northrop in 1982 and rejoined Boeing in 1988. After retiring from Boeing as a technical fellow in 2004, Mr. Cummings formed his own consulting company, ForzAero. He holds 38 patents, 23 directly related to aircraft design including the first laser integrated into an aircraft in 1981.

J. Hall Taylor Medal

SUSUMU TERADA

The J. Hall Taylor Medal was established in 1965 by the ASME Codes and Standards Board as a gift from Taylor Forge and Pipe Works to commemorate the pioneering work of J. Hall Taylor in the standardization of industrial products and safety codes for their usage. It is awarded for distinguished service or eminent achievement in the codes and standards area pertaining to the broad fields of piping and pressure vessels.

Susumu Terada, a senior engineer at Kobe Steel, Ltd. in Takasago, Japan, is honored for significant contributions to the development and promotion of ASME's Boiler and Pressure Vessel Code, particularly in the area of high-pressure technology; and for tireless service as a liaison between Japanese and American pressure vessel code organizations.

With Kobe Steel since 1977, Mr. Terada is responsible for structural design, analysis and strength evaluation for pressure vessels, heat exchangers and industrial machinery at the Takasago plant. He has been a member of ASME's BPVC Committee since 2000.

Robert Henry Thurston Lecture Award

M. CYNTHIA HIPWELL

The Robert Henry Thurston Lecture, established in 1925 in honor of ASME's first president, provides an opportunity for a leader in pure and/or applied science or engineering to present to the Society a lecture on a subject of broad interest to engineers. The Thurston Lecture was elevated to a Society award in 2000.

M. Cynthia Hipwell, Ph.D., the Oscar S. Wyatt Jr. '45 chair II at Texas A&M University in College Station, is honored for technology and innovation process leadership that has enabled areal density and reliability increases in hard disk drives, and accelerated the pace of technology development.

Dr. Hipwell has been working in technology development based upon nanoscale phenomena for over 20 years. At Texas A&M, she teaches classes on innovation and technology development and leads the INVENT (INnoVation tools and Entrepreneurial New Technology) Lab. Previously Dr. Hipwell was with Seagate Technology's Recording Head Division in Bloomington, Minn.

Timoshenko Medal

HUAJIAN GAO

The Timoshenko Medal is conferred in recognition of distinguished contributions to the field of applied mechanics. Established by the Applied Mechanics Division in 1957, it honors Stephen P. Timoshenko, world-renowned authority in the field of applied mechanics.

Huajian Gao, Ph.D., distinguished university professor at Nanyang Technological University in Singapore, is honored for pioneering contributions to nanomechanics of engineering and biological systems, a new research field at the interface of solid mechanics, materials science and biophysics.

Dr. Gao is also scientific director of the Institute of High Performance Computing in Singapore and editor of the *Journal of the Mechanics and Physics of Solids*. He previously served on the faculty of Brown University in Providence, R.I. (2006-19) and Stanford University in California (1988-2002); and as director at the Max Planck Institute for Metals Research in Stuttgart, Germany (2001-06).

Yeram S. Touloukian Awards

The Yeram S. Touloukian Award, a triennial award established in 1997, recognizes outstanding technical contributions in the field of thermophysical properties.

CAROLYN A. KOH

Carolyn A. Koh, Ph.D., William K. Coors distinguished chair and professor of chemical and biological engineering, and director of the Center for Hydrate Research at Colorado School of Mines in Golden, is honored for pioneering the use of in situ molecular and interfacial techniques to discover key nucleation, growth and particle interaction pathways, and controls for gas hydrate formation in energy storage and pipeline plugging mitigation.

A global leader in gas hydrate thermophysical and interfacial properties, Dr. Koh has established internationally recognized hydrate research programs over the last two decades at the University of London and at Mines. She has over 190 publications that have garnered 26,800 citations (h-index: 70).

ZHUOMIN ZHANG

Zhuomin Zhang, Ph.D., a professor at the George W. Woodruff School of Mechanical Engineering at Georgia Institute of Technology in Atlanta, is honored for pioneering research leading to the under-

standing of thermal radiative properties of micro- and nanoscale structures, for novel applications of this understanding to emerging fields of thermophysical properties, and for internationally recognized leadership in the thermophysical properties community.

Dr. Zhang's pioneering research has applications to radiation thermometry for semiconductor manufacturing and energy conversion. He has published over 200 archival journal papers and 10 invited book chapters; authored a well-received textbook titled "Nano/Microscale Heat Transfer"; and given more than 400 technical presentations worldwide.

Worcester Reed Warner Medal

HANQING JIANG

The Worcester Reed Warner Medal, established in 1930, is awarded for outstanding contributions to the permanent literature of engineering.

Hanqing Jiang, Ph.D., a professor of engineering at Westlake University in Hangzhou, China, is honored for seminal contributions through a series of papers on post-buckling behavior of stiff thin films on soft substrates under large deformation, and its new applications in diverse areas.

Prior to joining Westlake University in June 2021, Dr. Jiang was a member of the mechanical engineering faculty at Arizona State University in Tempe (2006-21). His current research interests include origami and kirigami based mechanical metamaterials, mechanics of lithium-metal batteries, food-based edible electronics and soft electronics. He has published more than 130 peer-reviewed journal papers and five book chapters. Many of his papers are among the top cited papers in the mechanics and/or mechanical engineering communities.

George Westinghouse Medals

The George Westinghouse Medals were established to recognize eminent achievement or distinguished service in the power field of mechanical engineering to perpetuate the value of the rich contribution to power development made by George Westinghouse, honorary member and 29th president of the Society. The Gold Medal was established in 1952 and the Silver Medal in 1971.

JOVICA RIZNIC – GOLD

Jovica Riznic, P.Eng., Ph.D., technical specialist at the Canadian Nuclear Safety Commission in Ottawa, Ontario, Canada, is honored for the development of complex numerical models and innovative diagnostics to better measure, calculate and understand the structure of the two-phase flow in nuclear power plants; and for key contributions to steam generator life cycle management.

At the CNSC, Dr. Riznic works on regulatory analysis and assessment of technical issues with operating nuclear power plants, with a focus on fitness-for-service assessment of major components. He is also an adjunct professor/thesis advisor at the University of Waterloo and Purdue University, and a faculty member at Algonquin College.

BRIAN WODKA – SILVER

Brian Wodka, P.E., division manager of the York, Pa. office of RMF Engineering, is recognized for demonstrated leadership that has advanced the power industry, particularly achievements in systems design, regulatory changes, standards development, training and ASME service.

Mr. Wodka has spent his entire career involved in steam systems and power plant engineering, inspection, operation, commissioning, reliability and forensic analysis. He has published multiple technical papers and articles as a subject matter expert on power plant performance and reliability. For the past 10 years, he sits on both the Maryland Board of Boiler Rules and the Maryland Board of Stationary Engineers.

Arthur L. Williston Medal

VINEET VASHI

The Arthur L. Williston Medal, established in 1954, recognized the best paper submitted on a subject chosen to challenge the abilities of engineering students. Revised in 2021, the medal now recognizes an engineering student or recent graduate for fostering civic service.

Vineet Vashi, an analyst for Impact & Programs at ASME India Pvt Ltd in Gurgaon, India, is recognized for volunteer leadership in ASME that has energized the student community and Society colleagues in India and beyond; and for working tirelessly on a personal mission to create value, give back to society and uphold the highest professional standards for an engineer, while fostering the same civic service in others.

Mr. Vashi earned a bachelor of technology degree in mechanical engineering with a minor in economics from Vellore Institute of Technology in Tamil Nadu, India, in 2020. He joined ASME India Pvt Ltd in April 2021.

Savio L-Y. Woo Translational Biomechanics Medal

DANNY BLUESTEIN

The Savio L-Y. Woo Translational Biomechanics Medal, established in 2015, recognizes an individual who has translated meritorious bioengineering science to clinical practice through research, education, professional development, and with service to the bioengineering community.

Danny Bluestein, Ph.D., a professor of biomedical engineering at Stony Brook University in New York, is recognized for seminal work on thrombosis that represents a paradigm shift in translating biomechanics research to clinical applications; and for meritorious cardiovascular disease studies and thromboresistance optimization in circulatory support devices that are front-runners for transformation into destination therapies for patients.

Dr. Bluestein's research has been sponsored by various federal agencies and private foundations including the National Institutes of Health, the National Science Foundation and the American Heart Association. He is the author of more than 140 peer-reviewed scientific articles and serves in editorial positions on several bioengineering journals.

Henry R. Worthington Medal

ROBERT J. VISINTAINER

The Henry R. Worthington Medal, established in 1980, is bestowed for eminent achievement in the field of pumping machinery.

Robert J. Visintainer, vice president of engineering and research and development at GIW Industries, Inc., a KSB company in Grovetown, Ga., is honored for 35 years of outstanding contributions to the advancement of centrifugal pump design for solid–liquid flows through the development of pioneering wear prediction models and novel design solutions, and through efforts that have advanced the state of knowledge for performance predictions and the training of the next generation of engineers.

Mr. Visintainer has worked in the design, testing and manufacture of centrifugal pumps since 1981. In his current role at the international slurry pump manufacturer, he is responsible for product design, product management, materials development, hydraulic R&D, technical training and GIW's Slurry Hydraulic Test Lab. He also serves as the engineering lead for product development and management within the KSB Global Mining organization.

S.Y. Zamrik PVP Medal

POH-SANG LAM

The Pressure Vessel and Piping Medal was established in 1980. Renamed in 2010, it is bestowed for outstanding contributions in the field of pressure vessel and piping technology.

Poh-Sang Lam, Ph.D., is honored for outstanding contributions in the field through the development of solutions to demonstrate the structural integrity of nuclear material systems; for exceptional service to ASME's Pressure Vessels and Piping Division; and for the dedicated mentoring of colleagues in the PVP community.

An ASME Fellow, Dr. Lam has served in various leadership positions in the PVPD and received numerous awards from the Society. In recent years, his advanced fracture mechanics research and stress corrosion cracking experiments provided the technical bases for the ASME Boiler and Pressure Vessel Code Case N-860 to ensure safe long-term storage and transportation of the spent nuclear fuel canisters. He also engaged in developing canister repair and mitigation technologies. Dr. Lam recently retired from the U.S. Department of Energy's Savannah River National Laboratory in Aiken, S.C.